

# AMD Versal AI Edge Series Gen 2 Product Selection Guide

# AMD Versal™ AI Edge Series Gen 2 – Resources

		2VE3304	2VE3358	2VE3504	2VE3558	2VE3804	2VE3858
AI Engine	AI Engine-ML v2 Tiles	24	24	96	96	144	144
	AIE-ML v2 Data Memory (Mb)	12	12	48	48	72	72
	AIE-ML v2 Shared Memory (Mb)	48	48	96	96	288	288
Processing System	#APU Cores / #RPU Cores	4 / 4	8 / 10	4 / 4	8 / 10	4 / 4	8 / 10
	Application Processing Unit	Arm® Cortex®-A78AE, 64 KB I w/parity & D w/ECC L1 Cache, 512 KB L2 Cache, 1 MB L3 Cache (per 2-core cluster), CMN600 w/4 MB Last-Level Cache (shared)					
	Real-Time Processing Unit	Arm Cortex-R52, 32 KB L1 Cache w/ECC, 128 KB TCM w/ECC					
	Memory	2 MB On-Chip Memory w/ECC					
	High-Speed Connectivity	PCI Express® Gen5 x4 <sup>(1)</sup> , USB 3.2, DisplayPort™ 1.4, 10G Ethernet, 1G Ethernet, UFS 3.1					
General Connectivity	CAN/CAN-FD, SPI, UART, USB 2.0, I2C/I3C, GPIO						
Programmable Logic	System Logic Cells	206,920	206,920	492,188	492,188	1,188,040	1,188,040
	LUTs	94,592	94,592	225,000	225,000	543,104	543,104
	DSP Engines	184	184	700	700	2,064	2,064
	NoC Master / NoC Slave Ports	4	4	7	7	24	24
	Distributed RAM (Mb)	2.9	2.9	6.9	6.9	16.6	16.6
Memory	Total Block RAM (Mb)	5.0	5.0	13.6	13.6	47.2	47.2
	UltraRAM (Mb)	13.2	13.2	3.4	3.4	33.2	33.2
	Total PL Memory (Mb)	21.1	21.1	23.9	23.9	97.0	97.0
	DDR Memory Controllers (DDRM5E)	3	3	4	4	5	5
	DDR Bus Width	96	96	128	128	160	160
Video and Imaging IP	GPU (4-core Arm Mali™-G78AE)	1	1	1	1	1	1
	Video Codec Unit (VCU)	-	1	-	1	-	1
	Image Signal Processor	-	1	-	3	-	3
Transceivers	GTYP (PL only)	4	4	12	12	20	20
	PS-Dedicated Transceivers <sup>(2)</sup>	4 x GTYP, 4 x GTR	4 x GTYP, 4 x GTR	4 x GTYP, 4 x GTR	4 x GTYP, 4 x GTR	4 x GTYP, 4 x GTR	4 x GTYP, 4 x GTR
Integrated Connectivity IP	PCI Express (PLPCIE5)	1 x Gen5 x4	1 x Gen5 x4	3 x Gen5 x4	3 x Gen5 x4	4 x Gen5 x4	4 x Gen5 x4
	100G Multirate Ethernet MAC	1	1	1	1	3	3
Ordering Information	Extended Temp <sup>(3)</sup>	-1MSE, -1LSE, -2MSE, -2MLE, -2LSE, -2LLE					
	Industrial Temp <sup>(3)</sup>	-1MSI, -1MLI, -1LSI, -1LLI, -2MSI, -2MLI, -2LLI					

1. PS-dedicated PCIe Gen 5 support is provided by the MDB5 hard IP block.

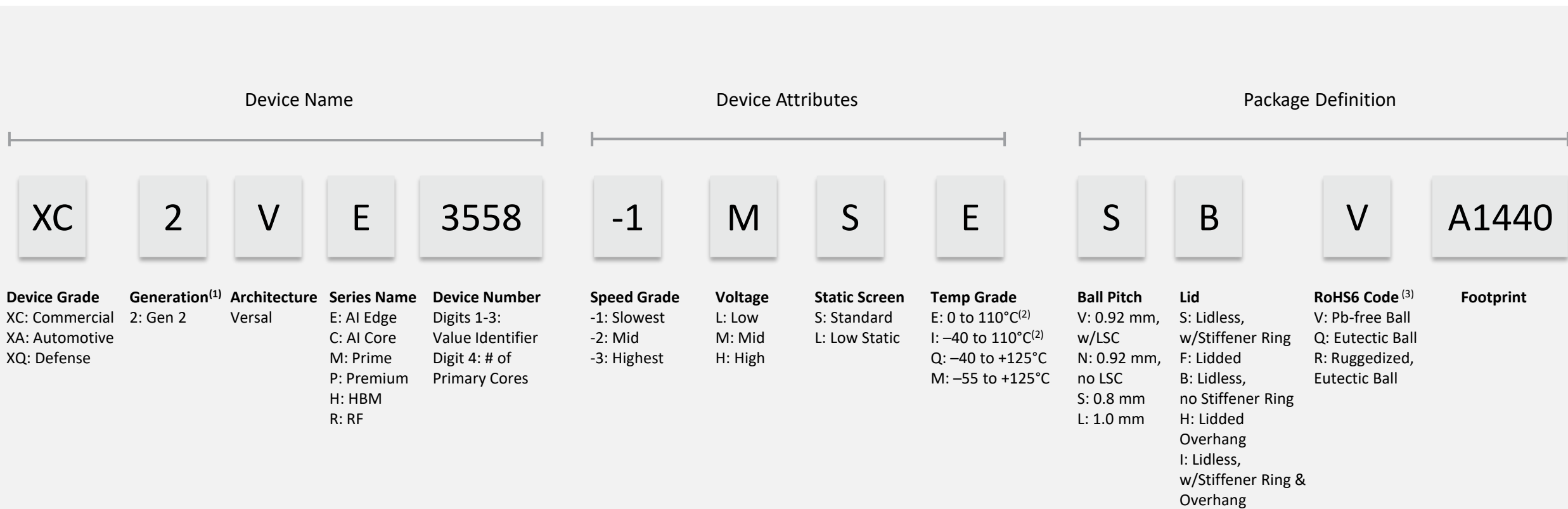
2. PS-dedicated transceivers connectivity: GTYP: 10G Ethernet, PCI Express, and HSDP; GTR: USB and DisplayPort™.

3. In extended and industrial temperature grades, some ordering combinations can operate for a limited time with a junction temperature of 110°C. Timing parameters adhere to the same speed file at 110°C as they do below 110°C, regardless of operating voltage. Operation at 110°C Tj is limited to 3% of the device lifetime and can occur sequentially or at regular intervals as long as the total time does not exceed 3% of device lifetime.

# AMD Versal™ AI Edge Series Gen 2 – Packaging

			2VE3304	2VE3358	2VE3504	2VE3558	2VE3804	2VE3858
Package Footprint	Package Dimensions (mm)	Ball Pitch (mm)	X5IO DDR Only, X5IO DDR+PL, X5IO PL Only HDIO, MIO GTYP (PL Only), GTYP (PS Only), GTR					
SFVA1089	27 x 27	0.8	176, 48, 32 22, 78 4, 4, 4	176, 48, 32 22, 78 4, 4, 4				
SFVA1440	31 x 31	0.8		168, 64, 32 44, 78 4, 4, 4		192, 136, 0 88, 78 4, 4, 4		
SSVA1440	31 x 31	0.8	168, 64, 32 44, 78 4, 4, 4	168, 64, 32 44, 78 4, 4, 4	192, 136, 0 88, 78 4, 4, 4	192, 136, 0 88, 78 4, 4, 4		
SSVA2112	37.5 x 37.5	0.8			232, 152, 0 44, 78 12, 4, 4	232, 152, 0 44, 78 12, 4, 4	208, 272, 32 44, 78 20, 4, 4	208, 272, 32 44, 78 20, 4, 4

# AMD Versal™ Device Ordering Information



Note:

1. This character is only present in Versal AI Edge Series Gen 2, Prime Series Gen 2, and Premium Series Gen 2 devices.
2. Operation at 110°C Tj is limited to 3% of the device lifetime and can occur sequentially or at regular intervals as long as the total time does not exceed 3% of device lifetime—except -1E and -3E (standard 0–100°C).
3. All packages have Pb-free bumps.



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